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10/598,209	11/16/2006	Bjarne Soerensen	742111-176	1159

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EXAMINER	
ELBIN, JESSE A	

ART UNIT	PAPER NUMBER
2614	

NOTIFICATION DATE	DELIVERY MODE
02/04/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/598,209	SOERENSEN, BJARNE	
	Examiner	Art Unit	
	JESSE A. ELBIN	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-21* is/are pending in the application.

4a) Of the above claim(s) *14,15,18 and 19* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12,13,16,17,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 August 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *21 August 2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species II, subspecies c in the reply filed on December 12, 2008 is acknowledged.

2. Claims 14-15 and 18-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed.

Claim Objections

3. Claim 17 is objected to because of the following informalities: the phrase "the surroundings" is not supported by proper antecedent basis in either claim 17 or claim 12. For the purposes of the art rejection below, "the surroundings" will be interpreted as "the surrounding surface" as stated in claim 12. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12-13 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Also, the phrase "such as" (claim 21)

renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Further use of the phrase "optionally" in claims 12 and 21 render the claims indefinite. It is unclear whether the systems of claims 12 and 21 are required to perform the claimed functionality, or whether they must be capable of performing the functionality, or whether they merely express a desired design variant.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 12-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellero et al. (US Patent 6,343,135 ('135)) (already of record) in view of Takagi et al. (US Patent 5,031,220 ('220)).

Regarding claim 12, Ellero teaches a loudspeaker assembly (Figs. 9a-b #10) arranged in a surrounding surface (Figs. 9a-b), wherein the loudspeaker may be brought from a first non-exposed position (Fig. 9a) and into a second exposed position (Fig. 9b) along an axis of movement (*the axis of movement in Figs. 9a-b is vertical*), where the loudspeaker assembly comprises a transducer unit (speaker; #28), means in the shape of for example motor means ("The actuator 18 may include an electric motor

(not shown)"; '135 col. 4 lines 36-37) and optionally a gearbox for moving the loudspeaker in a linear movement from the first position ("closed position"; col. 4 line 38) to the second position ("operable position"; col. 4 line 39) and vice-versa, and a closure member (panel; #20) being integral with the loudspeaker assembly (Figs. 9a-b) for covering the loudspeaker in its first position (Fig. 9a), and further the means may optionally tilt the loudspeaker around a second axis perpendicular to the axis of movement (*wherein* Figs. 8a-b *illustrates a retractable loudspeaker assembly which moves linearly as well as pivots around point #22*).

Ellero does not explicitly teach the loudspeaker assembly including an acoustic lens, the closure member being an integral part of the acoustic lens, nor means being provided so that the loudspeaker and/or the acoustic lens may be rotated around the axis of movement.

In the same field of endeavor, Takagi teaches the loudspeaker assembly including an acoustic lens (reflector; '220 Fig. 8 #25), a closure member being an integral part of the acoustic lens ("the open portion of the accommodation space 23 can be closed when the reflector 25 is turned down"; '220 col. 2 lines 53-55), and means being provided so that the loudspeaker and/or the acoustic lens may be rotated around the axis of movement ("as indicated by the arrows in FIG. 8, the reflector 25…may be made rotatable along the edge of the accommodation space 23"; col. 3 lines 1-4) "so that the direction of radiation of the reproduced sound can be selected" ('220 col. 3 lines 5-6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the acoustic lens as taught by Takagi into the retractable speaker assembly taught by Ellero for the benefit of selecting the direction of radiation of the reproduced sound.

Regarding claim 13, the combination of Ellero and Takagi remains as applied above.

Ellero further teaches the means for moving the loudspeaker *and the acoustical lens* comprises one or more telescoping means (Figs 8a-b) *wherein* a first end [is] fastened to the transducer unit (Figs. 8a-b e.g. at #22) and/or the acoustic lens and the other end is held by a gearbox (e.g. Figs. 3a-b), thereby moving the loudspeaker and the acoustic lens between the first (Fig. 8a) and second positions (Fig. 8b).

Ellero does not explicitly teach the telescoping means being a spindle and worm gear assembly. Ellero does teach use of an electric motor ('135 col. 4 lines 36-37) to move the retractable assembly, as well as several variations in the retracting mechanism (col. 4 lines 32-36), wherein the list is not exhaustive of options. Worm gear style gearboxes are commonly used for lifting or linear movement produced from a rotating electric motor in linear actuators. Worm gears inherently provide large gear ratios in smaller volumes. Further worm gears are frequently "self-locking" providing a low-power solution to maintaining either the "open" or "closed" orientation of the loudspeaker.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the telescoping means taught by Ellero by using a spindle and worm gear configuration, as is common and well known, for the benefits of using a commercially available linear actuator to provide an efficient, self-locking telescoping displacement mechanism using the electric motor also taught by Ellero.

Regarding claim 16, the combination of Ellero and Takagi remains as applied above.

Takagi further teaches the assembly being arranged in a vehicle ('220 Fig. 1), preferably in the dashboard (Fig. 1 #12), and/or doors, and/or the rear shelf (Fig. 12 #1).

8. Claims 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellero et al. (US Patent 6,343,135 ('135)) (already of record) in view of Takagi et al. (US Patent 5,031,220 ('220)) as applied to claim 12 above, and further in view of Castillo (US Patent 5,285,501 ('501)).

Regarding claim 17, the combination of Ellero and Takagi remains as applied above.

Takagi further teaches the [surrounding surface] being the dashboard of a vehicle ('220 Fig. 1 #12), and that the closure member is integral with a top section of the loudspeaker assembly (Figs. 2-4 #25).

Neither Ellero nor Takagi explicitly teaches the closure member being a cut-out section of the dashboard or at least made from the same materials and having identical texture as the dashboard, such that the assembly is invisible in its first position and fully operational in its second position.

Addressing the same problem as the inventor, Castillo teaches the closure member ('501 Figs. 1-2 #15) being a cut-out section of the dashboard (*as illustrated in* '501 Fig. 1) or at least made from the same materials and having identical texture as the dashboard, such that the assembly is invisible in its first position (Fig. 1) and fully operational in its second position (e.g. Fig. 2) for the benefit of hiding the location of the speaker, thereby improving the aesthetics of the dashboard.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cover surface of the retractable speaker assembly taught by the combination of Ellero and Takagi using a cut-out, or otherwise identical material as the surrounding surface as taught by Castillo for the benefit of hiding the location of the speaker, thereby improving the aesthetics of the dashboard.

Regarding claim 21, the combination of Ellero and Takagi remains as applied above. Alternately, the combination of Ellero, Takagi, and Castillo remains as applied above.

Takagi further teaches an automotive sound installation (Fig. 2) comprising a number of loudspeakers (Figs. 1-2, #21L, 21R, 22) such as tweeters, midrange, bass, mid-bass and subwoofer (*wherein use of different speakers for different frequency*

ranges is well known in the art) and at least one loudspeaker assembly according to any of the preceding claims (e.g. Fig. 2), characterised in that the sound distribution is controlled by a central unit (i.e. "left and right audio channels" *output from the radio*), and that means are provided for optimising the distribution of sound between the loudspeakers in relation to the passengers in the vehicle (*see the rejection of claim 12 above, wherein the combination of Ellero and Takagi teaches the retractable assembly is adjustable for rotation, tilt and/or elevation for the benefit of optimizing sound distribution*), wherein the loudspeaker assembly is arranged in the dashboard of the vehicle ('220 Fig. 2), and that the loudspeaker assembly may automatically and optionally independently be adjusted for rotation, tilt and/or elevation for optimal sound distribution (*see the rejection of claim 12 above, wherein the combination of Ellero and Takagi teaches the retractable assembly is adjustable for rotation, tilt and/or elevation for the benefit of optimizing sound distribution*).

9. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellero et al. (US Patent 6,343,135 ('135)) (already of record) in view of Takagi et al. (US Patent 5,031,220 ('220)) as applied to claim 12 above, and further in view of Shen (US Patent 6,922,378 ('378)).

Regarding claim 20, the combination of Ellero and Takagi remains as applied above.

Neither Ellero nor Takagi explicitly teaches pressure sensors being provided in the assembly such that if a predetermined minimum force is applied to the assembly in its second position the assembly will retract to its first position.

Addressing the same problem as the inventor, Shen teaches pressure sensors (detection circuit; Fig. 1 #19) being provided in the assembly ("electrically connected with the tray motor 13"; col. 2 lines 28-30) such that if a predetermined minimum force is applied to the assembly (*such that the signal in* Fig. 4, #13a *is created*) in its second position the assembly will retract to its first position ("In the event a back emf 13a is sensed by the detection circuit 19, it means an inward displacement of the disc tray 11 is effected"; col. 2 lines 43-45) for the benefit of eliminating the need for a button to retract the assembly, further increasing the aesthetics of the assembly.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the displacement mechanism taught by the combination of Ellero and Takagi with the back emf detection circuit taught by Shen for the benefit of detecting a user's intentions without the need for a button for retraction of the assembly, further increasing the aesthetics of the assembly.

Regarding claim 21, the combination of Ellero, Takagi, and Shen remains as applied above.

See the rejection of claim 21 above, wherein the teachings of Shen are independent from the teachings of Castillo, such that the combination and motivation to

combine as outlined above applies to the combination of Ellero, Takagi, Shen, and Castillo.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 9:00am to 6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./
Examiner, Art Unit 2614
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